



FILED VIA ECFS

April 10, 2019

Marlene H. Dortch Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20510

Jeffrey Marks
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North America
Nokia

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**Re: *Notice of Ex Parte Presentation, Unlicensed Use of the 6 GHz Band*
ET Docket No. 18-295; GN Docket No. 17-183**

Dear Ms. Dortch:

On April 8, 2019, representatives from Nokia met with Commission staff of the Office of Engineering and Technology. All Nokia and Commission attendees are listed below. The attached presentations served as the basis for the meeting.

The first presentation provides a description and conclusions of a simulation study conducted by Nokia to evaluate the interference potential of proposed unlicensed operations to fixed links. A key conclusion of the study is that co-channel operations of unlicensed services proposed in this proceeding, including indoor operations, can cause harmful interference into fixed operations under certain circumstances. Fixed service receiver selectivity was not considered in these simulations and warrants further study. Further investigation of receiver selectivity is recommended to determine if operation of fixed service and unlicensed service on immediately adjacent channels is feasible or whether a guard band would be needed between fixed service and unlicensed service spectrum blocks in some cases.

The second presentation provides Nokia's view on how an Automated Frequency Coordination system (AFC) could facilitate unlicensed operations while protecting fixed links. The AFC is a required feature to coordinate not only outdoor unlicensed operations, but also indoor unlicensed operations, with incumbent fixed systems to adequately protect fixed systems. Effective operation of the AFC could be achieved using even modestly accurate indoor position

information obtained using widely used techniques that rely on cellular base-station and Wi-Fi access point location databases. Nokia outlined two flexible implementation options for AFC that support managed, as well as organic, deployment of unlicensed systems.

Please contact the undersigned with any questions in connection with this submission.

Respectfully submitted,

/s/ Jeffrey A. Marks

Jeffrey A. Marks
Head of Regulatory Affairs
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Nokia Attendees

Milind Buddhikot
Doug Davies (by phone)
Jeffrey Marks
Prakash Moorut
Antti Piipponen

cc: **Commission Attendees**

Julius Knapp
Bahman Badipour
Michael Ha
Ira Keltz
Paul Murray
Nicholas Oros (by phone)
Aspa Paroutsas
Hugh Van Tuyl
Aole Wilkins El (by phone)